

Date: Thu, 1 Sep 94 04:30:25 PDT
From: Ham-Homebrew Mailing List and Newsgroup <ham-homebrew@ucsd.edu>
Errors-To: Ham-Homebrew-Errors@UCSD.Edu
Reply-To: Ham-Homebrew@UCSD.Edu
Precedence: Bulk
Subject: Ham-Homebrew Digest V94 #260
To: Ham-Homebrew

Ham-Homebrew Digest Thu, 1 Sep 94 Volume 94 : Issue 260

Today's Topics:

 2M Amp ('73
 440Mhz 50 ohm - 70 ohm transformer
 6m amplifier using vacuum tubes
 addr request
FSTV Modifying a Gemini RABBIT for amateur service?
 Portable EME Station -- Questions
 Troubleshooting an audio amp - what next ?
 WANTED: Thordarson Xfmrs
 wanted c source for icom's serial interface

Send Replies or notes for publication to: <Ham-Homebrew@UCSD.Edu>
Send subscription requests to: <Ham-Homebrew-REQUEST@UCSD.Edu>
Problems you can't solve otherwise to brian@ucsd.edu.

Archives of past issues of the Ham-Homebrew Digest are available
(by FTP only) from UCSD.Edu in directory "mailarchives/ham-homebrew".

We trust that readers are intelligent enough to realize that all text
herein consists of personal comments and does not represent the official
policies or positions of any party. Your mileage may vary. So there.

Date: Tue, 30 Aug 1994 21:21:44 -0700
From: ihnp4.ucsd.edu!usc!nic-nac.CSU.net!charnel.ecst.csuchico.edu!
yeshua.marcam.com!MathWorks.Com!udel!news.sprintlink.net!nwnexus!
scipio.cyberstore.ca!yvr.cyberstore.ca!fng@network.ucsd.edu
Subject: 2M Amp ('73
To: ham-homebrew@ucsd.edu

I'm building the 2m amp project in '73 magazine (Nov '93). The article
seems pretty straight forward. I have one question though. For the
trimmers, they use ARCO 423's and an ARCO 404. Nowhere in the article
does it say what the adjustable capacitance range for the two trimmers
are. Does anyone know so I can find an equivalent? Thanks!

Felix

--

Felix Ng - Vancouver, British Columbia, Canada
fng@cyberstore.ca / Fax: 604-322-5936 / VE7YDG / D.G.I.F. #8767

Date: Tue, 30 Aug 94 20:05:42 -0500
From: news.delphi.com!usenet@uunet.uu.net
Subject: 440Mhz 50 ohm - 70 ohm transformer
To: ham-homebrew@ucsd.edu

There is a company ZD Engineering that makes 50 to 75 ohm transformers. I have used them on 2m and 440Mhz and they work great. I dont have the address handy. If any one wants it drop me a line and I will post it.

Peter/KA5C0I

Date: Wed, 31 Aug 94 08:07:08 GMT
From: ihnp4.ucsd.edu!usc!howland.reston.ans.net!pipex!bt!uknet!uos-ee!
ee.surrey.ac.uk!M.Willis@network.ucsd.edu
Subject: 6m amplifier using vacuum tubes
To: ham-homebrew@ucsd.edu

>> The best thing that ever happened to 2 tube 4CX250 amplifiers was the paralld
>> designs origionated by Dick, K2RIW, for 432 and later by Fred Murray for 6 thru
>>220 MHz. They work and are much less touchy to tuneup and keep working.
>>My attentions much too short these days for push-pull amps.

So Where might one get a copy of the designs for the 6m and 2m versions of Freds amplifiers?

Mike

Date: 31 Aug 1994 05:54:37 GMT
From: ihnp4.ucsd.edu!usc!nic-nac.CSU.net!charnel.ecst.csuchico.edu!olivea!flash!
robertov@network.ucsd.edu
Subject: addr request
To: ham-homebrew@ucsd.edu

Does anybody know if this company is still in buisness ?
Did it change the addr ?
Do they have an email address (I think impossible this one !)

SCIENTIFIC RADIO SYSTEM INC.
367 Orchard Street
Rochester, New York

I have an HF transceiver from them and I am looking for
the optional ceramic filter for AM receiving.
The RTX is called SR210.

Thank everybody

Roberto VALFREDINI
robertov@atc.olivetti.com (CUPERTINO CA)
robertov@ico.olivetti.com (IVREA ITALY)

Date: 31 Aug 94 17:20:58 GMT
From: news-mail-gateway@ucsd.edu
Subject: FSTV Modifying a Gemini RABBIT for amateur service?
To: ham-homebrew@ucsd.edu

The RABBIT transmitters that I have seen are free-running oscillators
centered on approximately 915 MHz. It runs standard AM + audio subcarrier
video modulation. This is because the "receiver" is simply a downconverter,
taking the transmitted signal and shifting it down in frequency.

Since it runs AM (I'm not sure if they even bother with VSB filtering... I
doubt it...) it is not directly FSKable. Because of their AC coupling,
they are probably not even suitable for direct ASK, either.

Of course, if you wanted to use this as foundation for such a transmitter,
one would want to note that if it is indeed a free-running oscillator, one
would expect it to drift several hundred KHz, at least! This will hardly bother
a video signal, but with the data rates you are likely to be able to handle
over the air (<couple megabaud) some sort of frequency stability or receiver
tracking would be appropriate. A free-running oscillator is very easy to FSK.
One would want to shape the data prior to modulation as well.

As for the receiver, you are on your own. You may be able to use the original
downconverter (I don't know if it has a free-running LO or not) to get the
signal down to a reasonable frequency. For data rates <1 megabaud
(it is actually rated to 500 kbaud) the MC3356 is a good choice: It
contains its own LO, mixer, limiter, discriminator, and slicer. A similar
circuit is the MC13055. It is similar to the MC3356 except that it doesn't
have the LO or mixer, and its Discriminator/Slicer has been modified to
work up to 2 mbaud (it has been pushed to 10 mbaud experimentally)

The point being, is that either of these chips can be operated at the original output frequency range of the converter (70 MHz or so - the Channel 3 or 4 region). Good luck in finding either of these chips, though. I'm given to understand that they are in chronic short-supply. As a possible substitute, the NE604 (or even the NE605) has enough discriminator bandwidth to allow it to operate at several hundred kbaud. You'd need to supply your own slicer, but if you already got as far as putting the '604 online, adding the LM311 as a slicer would be trivial...

What is **not** trivial (and appears - to me at least - is that the need for something that can operate at those dreamed-of baud rates is glossed-over. Keep in mind that most things (TNC2 with the super-fast, killer clock speed option) is unlikely to work much above 56 kbaud, as is the Data Engine. Your choices appear to be (at least in current context) are, in rough order of handling high-speed data, are the PI2 card, the Gracilis PackeTwin, and the Gracilis PackeTen. The former two can reputedly handle several hundred kbaud, while the latter can handle well over a megabaud of sustained throughput on its multiple ports.

One final thing about a rabbit-for-data is that the data exchange needs to go both directions. Would one plan to "key" the rabbit transmitter? Certainly, it wasn't intended to be keyed at all (most video modulators take 10's to 100's of milliseconds to stabilize...) so I suppose that a full-duplex system was implied. If it is with exactly one other station you wish to communicate, then full-duplex is precisely what you need and should work toward.

If you wanted to use the "rabbit transmitter" as a hub of a multiple-access data network (slightly similar to 'hubmaster') then you'd have to work out that set of details, too... (i.e. what the "return" frequency ought to be, the data rate, protocol set, etc...0

<Clint>

Internet: clint@uugate.aim.utah.edu
Amprnet: ka7oei@uugate.wa7slg.ampr.org

Date: 30 Aug 1994 21:09:03 GMT
From: ihnp4.ucsd.edu!swrinde!cs.utexas.edu!utnut!utgpu!utcsri!
newsflash.concordia.ca!canopus.cc.umanitoba.ca!silver.cs.umanitoba.ca!
rflukes@network.ucsd.edu
Subject: Portable EME Station -- Questions
To: ham-homebrew@ucsd.edu

In article <CvBDI2.Lp2@ncifcrf.gov> you write:
>In article <btobackCuyHH5.Hw4@netcom.com> btoback@netcom.com (Bruce Toback)

writes:

>>

>>I hope that one of these will be the correct newsgroup for this
>>question; advice on redirection is welcome.

>>

>>I'm thinking of assembling a portable EME station that I could use
>>for demonstrations at schools. I don't know if such a thing is
>>possible at any reasonable cost, or for any reasonable definition
>>of "portable." But here are the questions anyway:

>>

>>1. I assume that because of my Arizona location, I can't use
>> 432MHz. This seemed to be the best compromise between power
>> amplifier practicality and antenna size. Is 23cm a good
>> second choice?

>

>I've just started on EME. I picked 2m because there's more gear
>available, and there are more people on 2m EME than other bands.
>There are technical reasons (cooler sky) why 432 etc are better,
>but if you want to get on easily, 2m can't be beat.

I would also like to know what frequency is the best choice for EME.
Aside from the obvious practicality of generating big power (1KW)
at frequencies about 432MHz, there must be some other factors
such as reflectivity of signals from the moon, and absorption of
signals by the atmosphere.

What about 900, 1296, and 2304MHz? What are some of the advantages
of these over say 2m? Obviously, a high gain antenna is much smaller.

Any info would be greatly appreciated.

Thanks,

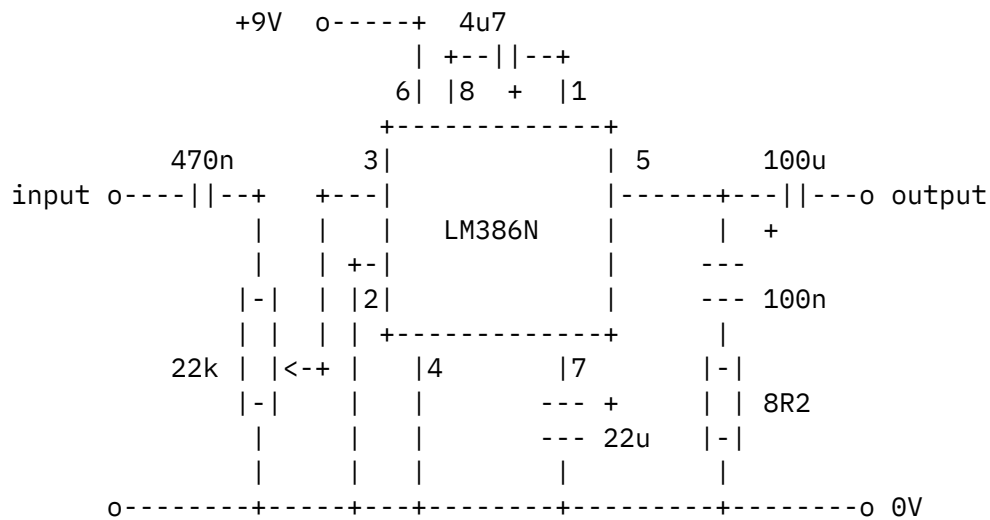
--Rich

--

Richard F. Lukes	rflukes@silver.cs.UManitoba.CA
Computer Science Department	
University of Manitoba	HOME: (204)-257-6701
Winnipeg, Manitoba CANADA	WORK: (204)-474-8696

Date: Wed, 31 Aug 1994 10:19:39 +0000
From: news.sprintlink.net!demon!abacus!dmb@uunet.uu.net
Subject: Troubleshooting an audio amp - what next ?
To: ham-homebrew@ucsd.edu

I've put a little amp together to drive a loudspeaker for a homebrew rx, and
seem to have a problem. The amp is based around a LM386N chip, with a couple
of extra components:



The problems are

1. When I advance the volume control, the amp breaks out into a loud buzz, and locks up until it's powered off again. The point at which this happens is always the same, but depends on the rate that the volume is advanced at. If i whizz thru this point, it remains stable, but breaks out into a buzz when the control is fully advanced. This is the case whether there is input to the amp or not.
2. If I connect an antenna to the central point of the vol. control, I get very solid breakthrough of local radio stations.
3. In any case, the amplifier doesn't amplify (major drawback :-))
4. Although it's a new component, the volume control sounds scratchy. I don't *think* it's worn, but this is possible I suppose.

I've checked the connections thoroughly, swapped the chip for a similar one (LM386-1), and visually checked the caps (I'll put a meter on them if I decide to strip it down and rebuild).

Is this one for the bin, or can anyone suggest anything else to test ?

73

David

PS, I'm off on hols on Thursday, any responses after this would be appreciated

by email.

--

David Byrne, Abacus Software, London, UK

Tel: +44 (0)71 930 4884

Email: dmb@abacus.demon.co.uk

Fax: +44 (0)71 839 7445

Here's a koan: If you have ice-cream I will give you some. If you have none,
I will take it away from you. (it's an ice-cream koan).

Date: Wed, 31 Aug 1994 15:42:07 GMT

From: psinntp!arrl.org!jcarcia@uunet.uu.net

Subject: WANTED: Thordarson Xfmrs

To: ham-homebrew@ucsd.edu

Does anyone know of a source ("new" or used) for Thordarson transformers?
I'm looking for type T5736 af transformer.

Nope. Ocean State, All-Electronics and some of the local shops don't carry them.

Thanks.

Joe, NJ1Q

--

Joseph Carcia, NJ1Q

ARRL Outgoing QSL Service Mgr.

American Radio Relay League

225 Main St.

| "The surest sign that Intelligent
| life exists elsewhere in the Universe
| is that NONE of it has ever visited
| the EARTH!" - Calvin & Hobbs

Date: Tue, 30 Aug 1994 16:23:46 UNDEFINED

From: ihnp4.ucsd.edu!dog.ee.lbl.gov!agate!msuinfo!harbinger.cc.monash.edu.au!

news.cs.su.oz.au!news.adelaide.edu.au!yoyo.aarnet.edu.au!fang.dsto.gov.au!

eod34.dsto.gov.au!minerds@network.

Subject: wanted c source for icom's serial interface

To: ham-homebrew@ucsd.edu

looking for software source routines written in C to control icom ic-707 hf
transceiver via it's serial interface

Date: 31 Aug 1994 01:14:46 GMT

From: ihnp4.ucsd.edu!agate!usenet.ins.cwru.edu!po.cwru.edu!sct@network.ucsd.edu

To: ham-homebrew@ucsd.edu

References <BRUSCH.1.00126AD8@NCSBST01CA.NTC.NOKIA.COM>,
<777704714snx@djwhome.demon.co.uk>, <33vas4INN11j4@ilx018.iil.intel.com>
Subject : Re: FFTMORSE (was: DSP on a SoundBlaster)

In article <33vas4INN11j4@ilx018.iil.intel.com>,
Braun Doug <dbraun@ilx049.iil.intel.com> wrote:
> I am planning to try to prove this wrong. The CPU horsepower is not a
> problem.

I believe the original problem with using a SoundBlaster is that it cannot do A/D and D/A simultaneously, or so it is alleged. If you build or buy a card that can do simultaneous input and output, the problem is reduced to software. Until then, it stays a hardware problem. (If you have some way of working around the limitation in software, please publish it somewhere so everyone else who wants to try real-time audio on a SoundBlaster can give it a try.)

Stephen

--

Stephen Trier "Even if I wanted to practice my horn, it's at
sct@po.cwru.edu the bottom of the bathroom."
KG8IH - Dan Alt, hornist, during the Cleveland
 Youth Wind Symphony European tour 1994

Date: 31 Aug 1994 11:08:39 GMT
From: zib-berlin.de!news.belwue.de!news.uni-stuttgart.de!deap1032@uunet.uu.net
To: ham-homebrew@ucsd.edu

References <btobackCuyHH5.Hw4@netcom.com>, <CvBDI2.Lp2@ncifcrf.gov>,
<34075f\$6sl@canopus.cc.umanitoba.ca>ed
Subject : Re: Portable EME Station -- Questions

Hello Rich,

a second very important advantage of higher frequencies is the lower sky noise, together with the feasibility of extremely low noise pre amps. 0,33 or so dB on 1296 MHz.

There is an excellent publication "technical notes for EME communication" by the Crawford Hill VHF Club.

Address: Dick Turrin
 P.O. Box 65
 Colts Neck, New Jersey
 07722
73, Moritz DL5UH

End of Ham-Homebrew Digest V94 #260
